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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/633,061	08/04/2000	Hong Joo Kim	8737.20016	1409

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EXAMINER

NGUYEN, HAU H

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/633,061

Applicant(s)

HONG JOO KIM

Examiner

Hau H Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2000.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 13-14, 19-21, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Koizumi et al.

Koizumi et al. teach a method of driving a first liquid crystal display (LCD) portion 11, driven by a first signal electrode driving circuit 13 having X1, X2,..., X10 signal electrode lines and a first scan electrode driving circuit 21 having Y1, Y2,..., Y5 scan electrode lines; and second LCD portion 12 driven by second signal electrode driving circuit 15 having X1, X2,..., X10 signal electrode lines, and a second scan electrode driving circuit 22 having Y1, Y2,..., Y5 scan electrode lines. An operation circuit 32 controls a first signal electrode driving circuit 13 and a second electrode driving circuit 15; a function generating circuit 33 controls a first scanning electrode driving circuit 21 and a second scanning electrode driving circuit 22.

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Koizumi et al. also disclose an operation circuit 32 controls a first signal electrode driving circuit 13 and a second electrode driving circuit 15; a function generating circuit 33 controls a first scanning electrode driving circuit 21 and a second scanning electrode driving circuit 22 (see Figure 4).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 18, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koizumi et al.

Since the signal electrode lines and scan electrode lines are used in a movable device such as cellular phones, it would have been obvious to one of ordinary skill in the art to utilize flexible wires to connect the signal electrode lines and the scanning electrode lines of Koizumi et al. so that the lines would not be broken in movable embodiments.

5. Claims 15-17, 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koizumi et al. in view of Jahagirdar et al.

Koizumi et al. disclose all the limitation of claims 15-17 and 22-24 except for the common light plate for illuminating the first and the second display. Jahagirdar et al. disclose a

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backlight 522, which is preferably designed and positioned such that backlighting is provided for both of the display elements (see column 4, lines 56-58, Jahagirdar et al.). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the liquid crystal display taught by Jahagirdar et al. with a backlight so as to bring out brighter display when light source is not sufficient.

6. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jahagirdar et al. in view of Koizumi et al. and Higginbotham et al.

Referring to claims 1, 7, Jahagirdar et al. teach a mobile station having a first display area (130), and a second display area (132) mounted on different sides of a housing portion (114) that is movable to an open and closed position. Therefore, Jahagirdar et al. teach all the limitations of claim 1, except for an operator for operating the first and second display means having 'n' signal electrode lines connect to first signal electrodes and second signal electrodes, respectively; 'm' scan electrode lines connecting the 'k' scan electrodes in the first display means and the 'm-k' scan electrodes in the second display means, and except for the first display and second display are on different sides of the folder cover. However, Jahagirdar et al. do teach the use of display controller (504) and display drivers (514, 518) as shown in Figure 5.

Koizumi et al. teach a method of driving a first liquid crystal display (LCD) portion 11, driven by a first signal electrode driving circuit 13 having X1, X2, ..., X10 signal electrode lines and a first scan electrode driving circuit 21 having Y1, Y2, ..., Y5 scan electrode lines; and second LCD portion 12 driven by second signal electrode driving circuit 15 having X1, X2, ..., X10 signal electrode lines, and a second scan electrode driving circuit 22 having Y1, Y2, ..., Y5

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scan electrode lines. An operation circuit 32 controls a first signal electrode circuit 13 and a second signal electrode circuit 15; a function generating circuit 33 controls a first scanning electrode circuit 21 and a second scanning electrode circuit 22 (see Figure 4 of Koizumi et al.)

Higginbotham et al. teach an electronic device that has a first display and a second display facing opposite directions on a folder cover.

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to utilize the X and Y driver circuits taught by Koizumi et al. incorporated into the driver circuits disclosed in the LCD system taught by Jahagirdar et al. because this would provide a method for driving the same capable of sufficiently suppressing crosstalk (see column 6, lines 66-67 of Koizumi et al.); and to utilize the folder cover with two LCDs facing opposite to one another taught by Higginbotham et al. for the LCD system of Jahagirdar et al. because this would reduce the space occupancy inside the system (see column 1, lines 29-34 of Higginbotham et al.)

Referring to claim 2, 8, Koizumi et al. disclose an operation circuit 32 controls a first signal electrode 13 and a second electrode 15; a function generating circuit 33 controls a first scanning electrode 21 and a second scanning electrode 22 (see Figure 4 of Koizumi et al.).

Referring to claims 3-6, 9-12, Jahagirdar et al. disclose a controller 504, which detects a control signal from switch 508 when housing portion 114 is moved from the closed position to the open position. Upon receiving the signal, controller 504 enables power to driver 518 and display element 520 corresponding to display area 132 (second display) and turn off display 130 (first display) (see column 6, lines 14-27). When the housing portion is in closed position, controller 504 power off display element 520 corresponding display area 132 (second display)

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and power on display element 516 corresponding to display area 130 (first display) (see column 5, lines 29-36, Jahagirdar et al.).

Response to Applicant's Arguments

7. Applicant's arguments filed on June 5, 2002 have been fully considered but they are not persuasive.

a. On page 3, third paragraph, Applicant argues “none of the cited references, singly, or in combination, teaches, ‘an operator for operating the first and second liquid crystal displays having a plurality of scan electrode lines connected to the first and second scan electrodes, and a plurality of signal electrode lines connected to the first signal electrodes and the second signal electrodes, respectively.’”

However, as shown in Figure 4 of Koizumi et al. (U.S. Patent No. 6,177,917), the memory 31, operation circuit 32, function generating circuit 33, driving voltage circuit 14, first and second distortion correction circuits 23 and 25, first and second signal electrode driving circuits 13 and 15, first and second scanning electrode driving circuit 21 and 22, together is the operator for operating the first and second liquid crystal displays 11 and 12, having a plurality of scan electrode lines connected to the first and second scan electrodes (Y1, Y2,..., Y10, and y1, y2,..., y10, respectively), and a plurality of signal electrode lines connected to the first signal electrodes and the second signal electrodes (X1, X2,..., X10, and x1, x2,..., x10, respectively).

b. On page 4, Applicant recites the argument “an operator for operating the first and second liquid crystal displays having a plurality of scan electrode lines connected to the first and second scan electrodes” based on the teachings of Jahagirdar et al.

However, Examiner does not rely the reference of Jahagirdar et al. alone, but in combination with Koizumi et al. As shown in Figure 5, Jahagirdar et al. do teach the use of display controller (504). The display controller 504 can be modified as an operator taught by Koizumi as described above.

c. Examiner respectfully traverses the Applicant’s argument for claims 1 and 7 on page 4.

Jahagirdar et al. teach a mobile station having a first display area (130), and a second display area (132) mounted on different sides of a housing portion (114) that is movable to an open and closed position (figure 1). Jahagirdar et al. also teach the use of display controller (504) as shown in Figure 5.

Koizumi et al. teach the operator as describes above.

Higginbotham et al. teach an electronic device that has a first display and a second display facing opposite directions on a folder cover.

In combination, the teachings of three references cited above include all the limitations of claims 1 and 7.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 form.

Nomura et al. U.S. Patent No. 5,881,299 disclose a device with two-portion display and a display cover.

Simmers U.S. Patent No. 5,841,431 discloses a display split into two sub-panels with one display controller.

Kakuta et al. U.S. Patent No. 6,297, 786 disclose a display divided into two portions.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 703-305-4104. The examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 703-305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D. C. 20231

or faxed to:


(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

H.Nguyen

06/28/2002



RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600